

REMARKS

Claims 18 to 36 are now pending. Claims 18 to 20, 22 to 26 and 28 have been amended above. No new matter has been added. Above, any amendments to the claims are shown by underlining (additions) and strikeout (deletions).

Applicants respectfully request reconsideration of the present application in view of this response.

35 U.S.C. § 112, Second Paragraph

The rejection under 35 U.S.C. § 112, second paragraph, of claims 18 to 36 was maintained in the Advisory Action. Specifically, claim 18 was rejected for reciting “wavelength deviation” and that “respective resistance” values are “selectively changed.”

Applicants have amended claim 18 above for further clarification purposes. No new matter has been added. Claim 18 was amended to recite “the respective wavelength deviation being the difference between the respective measured wavelength and the respective desired characteristic wavelength of each optoelectronic component” and “selectively setting a respective resistance value.... so as to achieve a respective thermal change of the respective resistance heater for setting the respective desired characteristic wavelength of each of the at least two optoelectronic components.” Claims 19, 20, and 22 to 26 were amended to recite proper antecedent bases in light of the amendment(s) to claim 18. No new matter has been added.

Claim 28 was rejected for being unclear within the claim structure as to how the wavelength tuning is accomplished. Claim 28 was amended to recite “the wavelength tuning being effected by changing the respective total resistance” for further clarification. In fact, claim 28 also recites a structure within the device of claim 28 that to accomplish wavelength tuning, “a respective resistor arrangement [is] connected between each respective at least one resistance heater and the common voltage or current source, a respective total resistance of each respective resistor arrangement being variable so as to allow for wavelength tuning....”

Applicants believe that the amendments to claim 18 and claim 28 further clarify any indefiniteness identified by the Examiner, and that Applicants’ amendments to claim 18 and claim 28 define the subject matter with a reasonable degree of particularity and distinctness. If the claims are still found to be indefinite, Applicants respectfully encourage and request that the Examiner suggest possible claim language to Applicants to improve the clarity or

precision of the language used, as recommended in the MPEP. See MPEP §2173.02.

Accordingly, Applicants respectfully submit that amended claims 18 and 28, and their dependent claims 19 to 27 and 29 to 36 are allowable, and request withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, of claims 18 and 28, and their dependent claims 19 to 27 and 29 to 36

35 U.S.C. § 103(a)

The rejection under 35 U.S.C. § 103(a) over Japanese Patent No. 59-204292 to Hazemoto et al. (“Hazemoto reference”) of claims 28 to 36 was maintained in the Advisory Action.

The Hazemoto reference (according to the Abstract and Figures provided with the Office Action) purportedly concerns a semiconductor device in which the temperatures of a plurality of semiconductor light emitting elements on the same substrate are independently controlled “to obtain lights of a plurality of wavelengths.” The Hazemoto reference refers to using an array of semiconductor elements on a substrate where a heating part independently provided to each laser has an insulation member, a heat generating member, an electrode and a protection film. Apparently, the temperature adjusting part has a supporting member, a temperature sensitive element detecting the temperature of the supporting member, a thermoelectric element heating and cooling the member based on information from the temperature sensitive element, and a heat dissipating fin to diffuse heat from the thermoelectric element to the atmosphere. (See Abstract, Hazemoto reference). The oscillation wavelength of the semiconductor laser is purportedly independently controlled by changing the current impressed on its heat generating member. (See Abstract, Hazemoto reference).

Amended claim 28 recites:

A device for the wavelength tuning of an optoelectronic component array having at least two optoelectronic components, the device comprising:

 a respective at least one resistance heater associated with each of the at least two optoelectronic components for setting a respective characteristic wavelength of the respective optoelectronic component;

 a common voltage or current source; and

 a respective resistor arrangement connected between each respective at least one resistance heater and the common voltage or current source, a respective total resistance of each respective resistor arrangement being variable so as to allow for wavelength tuning, the wavelength tuning being effected by changing the respective total resistance.

In contrast, the Hazemoto reference does not teach or suggest the features of claim 28, including 1) requiring a device having a respective resistance heater associated with each of the at least two optoelectronic components, the respective resistance heater being used for setting a respective characteristic wavelength of the optoelectronic component. Further, the Hazemoto reference also does not teach or suggest 2) using a respective resistor arrangement connected between a resistance heater and a common voltage or current source, nor does the Hazemoto reference teach 3) varying the total resistance of the resistor arrangement so as to allow for wavelength tuning. In fact, the Hazemoto reference apparently teaches a method for obtaining lights of a plurality of wavelength by independently controlling the light emitting elements on the same substrate. (See Abstract, Hazemoto reference) And, the Hazemoto reference uses a temperature adjusting part having a supporting member, a temperature sensitive element to detect the temperature of the supporting member and a thermoelectric element to heat and cool the supporting member based on information from the temperature sensitive element, as well as a heat dissipating fin to diffuse heat from the thermoelectric element. (See Abstract and Figure, Hazemoto reference) Further, the Hazemoto reference purports to independently control the oscillation wavelength of the semiconductor laser by changing the current impressed on the heat generating member. *Thus, the Hazemoto reference does not teach or describe at least THREE features as recited in claim 28.*

Further, Applicants respectfully submit that In re Stevens does not apply here. Applicants believe that the Advisory Action is misguided in stating that “it would have been obvious to one of ordinary skill in the art... to modify Hazemoto et al. to include variable resistance arrangements to vary the heat of the laser diodes and therefore the wavelength, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. In re Stevens, 101 USP 284 (CCPA 1954). In re Stevens, 101 USPQ 284 (CCPA 1954) concerns an elongated reel-supporting body having a hand grip which is universally adjustable and a finger grip which is longitudinally adjustable. Id. at 285. The question presented in the In re Stevens case is “whether or not the two mentioned differences from the conventional fishing rod produce a combination not suggested by the prior art and whether the result of such combination is not inherent in either of said adjustments.” (Emphasis added). Id. The CCPA held that the use of the adjustable handgrips were suggested by the patents cited in the case. Id. This is not the situation in the present application. Instead, the Advisory Action inadvertently attempts to “create” at least THREE additional features out of thin air, namely, 1) requiring a device having a respective resistance

heater associated with each of the at least two optoelectronic components, the respective resistance heater being used for setting a respective characteristic wavelength of the optoelectronic component; 2) using a respective resistor arrangement connected between a resistance heater and a common voltage or current source; and 3) varying the total resistance of the resistor arrangement so as to allow for wavelength tuning, as in claim 28.

Accordingly, Applicants respectfully submit that the Hazemoto reference does not teach or suggest all of the features of claim 28, as discussed above. And since claims 29 to 36 depend from claim 28, those claims are allowable for the same reasons as for claim 28. Withdrawal of the rejection of claims 28 to 36 is respectfully requested.

The rejection under 35 U.S.C. § 103(a) over the Hazemoto reference in view of U.S. Patent No. 5,373,515 to Wakabayashi ("Wakabayashi reference") of claims 18 to 27 was maintained in the Advisory Action.

Claim 18 recites features analogous to those of claim 28. Accordingly, claim 18 is allowable for essentially the same reasons as claim 28, as outlined above and discussed below. In particular, the Hazemoto reference does not teach or suggest the method for wavelength tuning an optoelectronic component array features of claim 18, requiring comparing a respective measured wavelength of the optoelectronic component array with a desired characteristic wavelength so as to determine a wavelength deviation for the optoelectronic components. Moreover, the Hazemoto reference does not teach or suggest the claim 18 method step of selectively setting a resistance value of a resistor arrangement connected between the optoelectronic components and a resistance heater associated with the optoelectronic components so as to achieve a thermal change of the resistance heater for setting the desired characteristic wavelength of the optoelectronic components. Instead, the Hazemoto reference apparently teaches a method for obtaining lights of a plurality of wavelength by independently controlling the light emitting elements on the same substrate. (See Abstract, Hazemoto reference) And, the Hazemoto reference uses a temperature adjusting part having a supporting member, a temperature sensitive element to detect the temperature of the supporting member and a thermoelectric element to heat and cool the supporting member based on information from the temperature sensitive element, as well as a heat dissipating fin to diffuse heat from the thermoelectric element. (See Abstract and Figure, Hazemoto reference) Further, the Hazemoto reference purports to independently control the oscillation wavelength of the semiconductor laser by changing the current impressed on the

heat generating member.

Amended claim 18 recites:

A method for the wavelength tuning of an optoelectronic component array, the optoelectronic component array including at least two optoelectronic components, the method comprising:

comparing a respective measured wavelength of each of the at least two optoelectronic components with a respective desired characteristic wavelength so as to determine a respective wavelength deviation for each of the at least two optoelectronic components, the respective wavelength deviation being the difference between the respective measured wavelength and the respective desired characteristic wavelength of each optoelectronic component; and

selectively setting a respective resistance value of a respective resistor arrangement connected between each of the at least two optoelectronic components and a respective resistance heater associated with each of the at least two optoelectronic components so as to achieve a respective thermal change of the respective resistance heater for setting the respective desired characteristic wavelength of each of the at least two optoelectronic components.

The secondary Wakabayashi reference does not cure the deficiencies of the Hazemoto reference. The Wakabayashi reference purportedly concerns a laser wavelength controlling apparatus adapted for controlling the wavelength of a narrow-band oscillation laser beam at a high accuracy for a long period of time even if environmental conditions such as atmospheric temperature and pressure changes. (See Abstract, Wakabayashi reference) The Wakabayashi reference refers to using a reference light source for generating a reference light to measure the wavelength of an oscillated laser beam with a narrow bandwidth, a detector means for leading the oscillated laser beam and the reference light into a spectroscope serving as a wavelength detector and detecting the absolute wavelength of the oscillated laser beam; and means for controlling the wavelength selected by the wavelength selective element so that the absolute wavelength detected by the detector means may correspond to a preset wavelength. (See col. 2, lines 6-22, Wakabayashi reference)

Like the Hazemoto reference, the Wakabayashi reference does not teach or suggest the method for wavelength tuning an optoelectronic component array features of claim 18, requiring comparing a respective measured wavelength of the optoelectronic component array with a desired characteristic wavelength so as to determine a wavelength deviation for the optoelectronic components. Moreover, the Wakabayashi reference does not teach or suggest the claim 18 method step of selectively setting a resistance value of a resistor arrangement connected between the optoelectronic components and a resistance heater associated with the optoelectronic components so as to achieve a thermal change of the resistance heater for

setting the desired characteristic wavelength of the optoelectronic components.

Accordingly, Applicants respectfully submit that the Wakabayashi reference, alone or in combination with the Hazemoto reference, does not teach or suggest all of the features of claim 18, as discussed above. And since claims 19 to 27 depend from claim 18, those claims are allowable for at least the same reasons as for claim 18.

Withdrawal of the rejection under 35 U.S.C. § 103(a) of claims 18 to 27 is respectfully requested.

Applicable Law

Moreover, to reject a claim as obvious under 35 U.S.C. § 103, the prior art must describe or suggest each claim element and it must also provide a motivation or suggestion for modifying the elements in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)). The cases of In re Fine, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), also make plain that a subjective “obvious to try” standard is not proper.

The Court in the case of In re Jones stated that:

Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to make the modifications . . . necessary to arrive at the claimed [invention].

In re Jones, 21 U.S.P.Q.2d at 1943 & 1944 (citations omitted). In short, there must be evidence of why a person having ordinary skill in the art would be motivated to modify a reference to provide the claimed subject matter of the claims.

The Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a “technologically simple concept” -- which is not even the case here, there still must be some finding as to the “specific understanding or principle within the knowledge of a skilled artisan” that would motivate a person having no knowledge of the claimed subject matter to “make the combination in the manner claimed”, stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. With this simple concept in

mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed. In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper *prima facie* case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

(See In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Federal Circuit 2000) (citations omitted, italics in original, emphasis added)). Here, there have been no such findings. *In addition*, with respect to the above-identified application, Applicants request some sort of evidence and/or affidavit from the Patent Office regarding the Patent Office's assertions of what it suggests is obvious to one of ordinary skill in the art.

Applicants respectfully submit that the Hazemoto reference and the Wakabayashi reference are not combinable, and there is no motivation to combine those two references. The Hazemoto reference is concerned with obtaining lights of a plurality of wavelengths by independently controlling the temperatures of a plurality of semiconductor light emitting elements on the same substrate. (Abstract, Hazemoto reference) The Wakabayashi reference is concerned with stabilizing and controlling the absolute value of a wavelength of an oscillating laser beam with a narrow bandwidth with a high accuracy for a long period of time in the face of environmental changes. (col. 1, line 58 - col. 3, line 21, Wakabayashi reference) Those concerns present nonanalogous motivations, and thus, noncombinable motivations.

In addition, any and all arguments from Applicants' earlier responses are incorporated herein by reference.

It is therefore respectfully submitted that the claims rejected as obvious are allowable over the references relied upon in the Office Action. Thus, it is respectfully submitted that all of claims 18 to 36, as amended and presented above, are allowable for the foregoing reasons.

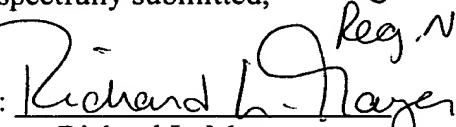
CONCLUSION

In view of all of the above, it is believed that any outstanding rejections have been obviated, and that claims 18 to 36 are allowable. It is therefore respectfully requested that the rejections be withdrawn, and that the present application issue as early as possible.

If for any reason the Examiner believes that contact with Applicants' attorney would advance the prosecution of this application, he or she is invited to contact the undersigned at the number given below.

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Respectfully submitted,

By: 
Richard L. Mayer
(Reg. No. 22,490)

By: 
Linda Gandy
Reg. No. 49084

KENYON & KENYON
One Broadway
New York, New York 10004
(212) 425-7200 (telephone)
(212) 425-5288 (facsimile)

CUSTOMER NO. 26646